

Appendix A-2 Multi-Year Program Plan

The MYPP should be prepared (or updated) by the start of each fiscal year.

Multi-year program planning provides essential inputs to the Budget Formulation Process. The purpose of the multi-year planning process is to provide a mechanism for the program to establish:

1. research and development (R&D) activities and priorities
2. capital projects
3. annual performance objectives
4. activities and milestones

The MYPP should provide detailed plans for the fiscal year and the following four consecutive budget years.

The detailed plan for the first budget year should be consistent with the President's Budget Request to be submitted to Congress in January.

The Multi-Year Program Plan (MYPP) serves as a useful resource material in the preparation of the program budget request and the preliminary Annual Operating Plan. Multi-year planning also provides a framework for periodically assessing and reporting progress to management.

a. Background and Purpose

The detailed plan for the second budget year will be the basis for the development of the budget request to OMB.

Strategic planning and multi-year program planning provide essential inputs to the Budget Development Process. Strategic planning establishes program priorities and provides guidance for multi-year program planning activities of its various programs.

Multi-year planning is required for each of the programs established within EERE.

The MYPP is the baseline document that results from this intensive planning process. It is updated annually and should be ready prior to the start each fiscal year (no later than September 30).

The importance of a well prepared MYPP cannot be overemphasized since the success in acquiring program funding is in part dependent on it. It should provide explanation of the activities and accomplishments for the fiscal year as well as detailed plans for the following two consecutive budget years. Less detailed plans for three more consecutive years complete the multi-year plan for a five-year timeframe.

b. Multi-Year Planning Process

A multi-year planning process is required prior to initiation of R&D activities since funding has to be requested well in advance of program and/or project initiation (and no later than two years prior to the start of the activity, to account for the budget cycle). See Section 4.3 for details of the Budget Formulation Process.

The program manager is responsible for developing the MYPP. The planning process should help program managers to clearly develop technical objectives, identify the research and development and/or marketing activities needed to meet the programmatic objectives, and estimate resource requirements for conducting those activities.

The MYPP must reflect the top level mission goals of EERE. The Assistant Secretary/EE and the applicable Deputy Assistant Secretary/EERE develop these mission goals and objectives based on the overall DOE mission mandates that Congress has enacted into legislation, and the EERE Strategic Plan.

These mission goals and objectives provide the sector-level managers with guidance for establishing programmatic objectives for each of their programs. Office Directors and Division Directors are primarily responsible for this task, but program managers are often asked to participate as well.

Program managers are responsible for preparing the MYPP, which consists of three major steps:

- Determine R&D and marketing needs to meet programmatic objectives.
- Develop the Technical and/or Marketing Program Plan.
- Draft the MYPP.

The program manager prepares the MYPP.

In undertaking these steps, the program manager should do the following:

- Analyze higher-level Strategic Plans and provide rationale for undertaking the program. Clearly define the mission, goals, objectives, and specific role (or roles) of the program in the context of the Strategic Plans.

MYPP Development Steps:

Assistant Secretary/EE and Deputy Assistant Secretary establish mission goals and objectives.

EERE managers establish programmatic objectives.

Program managers assess R&D needs.

Program managers develop Technical Program Plan.

Program managers draft MYPP.

EERE managers review draft MYPP.

Program manager revises MYPP.

Final MYPP is issued.

- To assure that the program is responsive to national needs, solicit input from potential customers, stakeholders, and field organizations on what they see as the DOE role in the technology program area.
- Conduct assessment of R&D needs in the technology focus area(s) of the program. Also conduct dialog with customers, stakeholders, and field organizations.
- Identify target opportunities-technology R&D and/or marketing areas that would yield the most benefit in terms of program mission, goals, and objectives for which there is a defined Federal role.
- Identify critical technical and/or marketing issues (that the program will address or is already addressing) in the target opportunity areas. Generate a slate of R&D and/or marketing needs (or activities) that address the critical issues.
- Develop a set of criteria (based on DOE, EE, and sector mission, goals, objectives definitions) to rank the potential R&D areas in the order of importance to achieving DOE/EE/sector mission, goals, and objectives.
- Estimate the cost of performing the R&D and/or marketing activities based on a schedule of deliverables leading to achievement of the technical and marketing objectives. (Plan on the basis of at least three different funding levels to show the impact of funding levels on achieving objectives on schedule).
- Develop and write-up the MYPP.

With this information, the program manager can now draft the MYPP.

Office Directors, Division Directors, and the Deputy Assistant Secretary review the draft MYPP. In so doing, they also seek advice from customers, stakeholders, and field organizations, although usually at a higher level than consulted by the program manager. The Assistant Secretary/EE may review the MYPP also.

The program manager revises the MYPP based on the review comments, and the final MYPP is issued.

b. Multi-Year Program Plan Structure

MYPP are comprehensive five-year research and development, demonstration and deployment plans that address the research and development needs of specific Technology areas (e.g. Transportation Materials Program Plan, Advanced Battery R&D Program Plan). Each Plan provides the rationale for the program, defines the critical national needs addressed by the program, establishes program goals and objectives, identifies potential benefits, and presents a technical and/or marketing plan and implementation strategy. An outline of the document is shown below.

Outline of the MYPP:

Executive Summary

1.0 Introduction

- Legislative Requirements

- Background

2.0 Goals and Objectives

- National Needs

- DOE and Program Goals

- Program Objectives

- Technology and/or Marketing Status

3.0 Technical and/or Marketing Plan

- Technical and/or Marketing Approach

- Technical and/or Marketing Program

- Schedule and Milestones

- Resource Requirements

4.0 Implementation Strategy

- Government Industry Coordination

- Intra- and Inter-Agency Coordination

- Technology Transfer

- Deployment of Technology

5.0 Management Plan

- Program Management

- Mgmt Control & Coordination

- Program Evaluation

- Appendices

**MYPP content**

The MYPP should (at a minimum) contain the following:

- Executive Summary
- Introduction
- Goals and Objectives
- Technical Plan
- Implementation Strategy
- Management Plan

Executive Summary

The Executive Summary is a brief overall summary of the Plan including program objectives, critical R&D needs, and an overview of the technical plan.

Introduction

- **Legislative Requirements**
- **Background**

1.0 Introduction

Provide background information on the program and describe the legislative requirements and authority for conducting the program. Under the Legislative Requirements heading, cite and briefly describe specific legislative authority (by title or section) for conducting the program. Also provide a brief background of the program, including its overall mission and focus.

Goals and Objectives

- **National Needs**
- **DOE and Program Goals**
- **Program Objectives**
- **Technology Status**

2.0 Goals and Objectives

Describe the goals of the program and show how they relate to the needs of the nation as a whole. Include descriptions of the national needs in transportation technologies, the DOE mission and goals to address those needs, specific program objectives, and current status of the technology in the program area.

National Needs

Characterize the national needs in the area of transportation technologies. Discuss specific national needs (e.g., the need for reduced dependence on imported oil, or enhancing the productivity and competitiveness of the U.S. auto industry) and their relationship to the transportation sector and the program.

Explain the significance of the technology sector program and the specific R&D program in terms of broad national issues such as energy use, the economy and the environment. Provide estimates of the program's potential impact on these national goals.

Cite or list any significant reports or studies that recognize the national need.

DOE and Program Goals

Describe the goals of DOE and the program in addressing the national needs in technologies and the DOE goals in support of specific legislation (identified in the Legislative Requirements section).

Explain the DOE/EE/Sector vision for technologies and link with specific program goals.

Program Objectives

Define specific programmatic objectives and explain how each objective contributes to supporting the Sector goals and the broader EERE and DOE missions. Define technical or R&D and deployment objectives that support the goals and objectives of the program and collectively contribute to achieving the Sector vision.

Explain how the program's technologies and marketing initiatives are integrated with other EERE and Sector programs in support of the Sector's goals.

Technology Status

Describe the current status of the technology or technologies and previous R&D successes. Compare and evaluate competing technologies and/or deployment strategies. Give a brief historical perspective of technologies and/or market initiatives and state all recent major accomplishments.

3.0 Technical Plan

Describe, in detail, the technical and/or marketing approach for addressing critical issues associated with achieving the transportation technology goals and the technical program and schedule for accomplishing these goals.

Technical Plan

- **Overview**
- **Technical Approach**
- **Technical Program**
- **Schedule and Milestones**
Resource Requirements

Technical and/or Marketing Approach

Outline the overall technical approach for accomplishing the program goals. Explain the process and criteria used for determining the program's R&D priorities and discuss the technical and marketing goals prioritized in the strategic planning process.

Discuss the R&D priorities determined to be the most urgent or critical to accomplishing the program goals. Discuss the collaborative efforts with DOE, the national laboratories, industry, and academia in ranking R&D program priorities. Discuss the impact of specific R&D and deployment activities on the program goals.

Technical and/or Marketing Program

The R&D and/or marketing activities needed to accomplish the prioritized program goals are determined during the strategic planning process. These R&D and/or marketing activities are grouped around program activity areas (e.g., lightweight materials for vehicle structures). For each of these main focus areas, detail the R&D activities developed to accomplish the prioritized goals and clearly delineate the importance of each R&D and/or marketing activity to attaining the longer-term program objectives.

A good description here will provide the foundation for effective responses to Impact and Capability Statements in support of the budget process.

Explain why limited activities may occur in some areas due to lack of funding, immaturity of technology, etc., and outline what could be done with increased funding and what would result if funding was decreased.

Discuss how environmental, safety, and health issues related to conducting the program will be addressed.

Schedule and Milestones

Develop a milestone schedule that ensures the R&D activities are properly integrated with the technical plan and that the interim and final milestones are relevant to the program goals and objectives. Outline the major program milestone for a five-year period, including long-term R&D activities in the five-year milestone schedule with the anticipated fiscal year accomplishments. Define technical and/or marketing objectives and deliverables that are possible within the estimated budgetary constraints.

Resource Requirements

Describe the funding required for undertaking the R&D and/or marketing activities outlined in the program plan.

4.0 Implementation Strategy

Describe the strategy for implementing the program. Identify all relationships for carrying out the R&D and/or marketing activities and specify the procurement strategy (system contracts via RFPs, grants, CRADAs, PRDA, SBIR, 8(a), etc.)

Government/Industry Coordination

Implementation Strategy

- **Government/Industry Coordination**
- **Intra- and Inter-Agency Coordination**
- **Technology Transfer**
- **Deployment of Technology in the Transportation Sector**

Explain the Government /industry relationships that exist within the program to carry out the R&D activities including cost shared R&D, pre-competitive industry research collaboration, etc.

Intra- and Inter-Agency Coordination

Explain program coordination with other DOE programs and other similar R&D programs in other Federal agencies.

Technology Transfer

Specify all technology transfer mechanisms used in the program, such as cooperative agreements, cost-shared contracts, CRADA, R&D consortia, etc.

Deployment of Technology

Explain the process by which the developed technology or information is deployed to industry or customers. Also recommend pathways to integrate the R&D results into production vehicles or transportation systems.

5.0 Management Plan

Management Plan

- **Program Management**
- **Management Control and Coordination**
- **Program Evaluation Plan**

Clearly define the roles of the project participants and their responsibilities and specify the planning, reporting and review controls.

Program Management

Describe lead management responsibilities for the program and the specific field offices and labs responsible for implementing specific R&D goals. Chart the program's organizational structure.

Management Control and Coordination

Describe the management control exercised through planning, reporting, and review processes required at all levels to ensure the program activities are consistent with Federal policy.

Program Evaluator

Describe the general approach for evaluating the program's results and assessing the benefits.

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Appendix A-3 Suggested Practice, “Developing the Annual Operating Plan”

The Annual Operational Plan (AOP):

- Facilitates planning,***
- Establishes a baseline for measuring progress, and***
- Identifies the program’s mission, functions, and resources.***

The purpose of the execution planning, which encompasses the Annual Operational Plan (AOP), is to facilitate program planning and communication, and to establish a baseline for measuring the progress, over the course of each fiscal year (FY).

The AOP will identify the program mission and functions which support the overall mission and functions of the higher level organizations, program strategic objectives, FY tasks planned under each strategic objective, and the personnel and fiscal resources assigned for task accomplishment. The AOP will also identify responsibilities, planned milestones, controls for program execution, and interfaces and interrelationships with other organizations.

A general framework for conducting one year operational planning is as follows:

- Assemble planning team,
- Review goals and objectives,
- Identify planned accomplishments for the year with associated measures and standards,
- Identify what work will be assigned,
- Identify who the work will be assigned to,
- Identify required funding,
- Identify vehicles for assigning the work,
- Identify milestones for ensuring vehicles are in place to assign and fund the work,
- Plan and establish projects,
- Identify scope of projects, major milestones, technical goals and probable cost, and
- Establish project managers and provide necessary staff resources.

The Annual Operating Plan (AOP):

- *Facilitates planning,*
- *Establishes a baseline for measuring progress, and*
- *Identifies the program's mission, functions, and resources.*

AOPs are prepared annually.

Division Director approves revisions to the AOP.

Developing an AOP

a. Background and Purpose

The purpose of a program Annual Operating Plan (AOP) is to facilitate program planning and communication, and to establish a baseline for measuring the progress, over the course of each fiscal year (FY), of programs established within EERE. AOPs are prepared annually prior to each FY for all identified programs within EERE.

The AOP will identify the program mission and functions which support the overall mission and functions of the Sector and EERE, program strategic objectives, FY tasks planned under each strategic objective, and the personnel and fiscal resources assigned for task accomplishment. The AOP will also identify responsibilities, planned milestones, controls for program execution, and interfaces and interrelationships with other organizations.

b. AOP Development

The program manager is assigned responsibility for preparing the AOP by the cognizant Office Director (or Division Director).

It is expected that the majority of the information will be communicated by tables and charts that can also be used as a baseline for Program Progress Reviews (See Appendix D1). Narrative information should be as brief as possible, and should reference reports and multi-year program plans where appropriate. The primary intent is to establish an efficient FY planning process that will assist all management levels in effectively communicating and tracking progress of various sector programs. Since the AOPs will be developed prior to the FY and it is necessary that the program managers plan their execution of funds, the Spend Plan is developed and included as part of the AOP. In addition, a complete Project Listing is required as Appendix B of the AOP. The project listing centralizes basic program information that often needs to be communicated quickly to the Assistant Secretary/EE.

Contractor personnel can assist in the formulation of AOPs; however, since approved AOPs contain sensitive budget information (e.g., program Spend Plan), they are for internal distribution only.

The Cognizant Office Director is authorized to approve the AOP.

The Division Director or higher approves all revisions to the AOP. Revisions are required when changes in the planned FY program funding exceed $\pm 25\%$ of original value, or if programmatic changes occur that have a significant effect on management of projects.

Approved AOPs will be distributed under a cover memorandum to the sector personnel responsible for program success. In addition, the following individuals as a minimum, should receive copies of the approved AOP:

- Deputy Assistant Secretary,
- Improvement Program Manager,
- Administrative Officer,
- Budget Specialist,
- Associate Deputy Assistant Secretary, and
- Office Directors, Director.

c. Instructions for the Preparation of Annual Operating Plans

Instructions for preparing the AOP are provided below. The AOP consists of ten sections, not including cover sheet, change sheet, and appendix. Each page of the AOP must be appropriately marked, “For DOE Internal Use.”

COVER AND CHANGE SHEETS

Cover Sheet: Include the program name, fiscal year (FY), revision number, date and preparer/approval signatures. The cover sheet is the official program approval sheet and must be signed each time a revision is issued.

Change Page: Provide a statement explaining that the revision is a result of programmatic, technical, or funding changes. Include the page number i.

TABLE OF CONTENTS

Include a table of contents with the page numbered ii.

SECTION 1.0 PURPOSE

Explain the purpose of the AOP, for example:

“The purpose of this Plan (AOP) is to specify the planned activities during FY 19XX in support of the Program. This plan identifies what activities will be accomplished, when they will be accomplished, and what resources are necessary for these activities. It serves as a basis for periodic program reviews and documents basic project information.”

SECTION 2.0 SCOPE

Explain that the AOP is for internal use only and is not to be distributed to contractors. It is an internal program execution document and is not meant to be a strategy or multi-year planning document. (Remember to appropriately mark each page of the AOP, “For DOE Internal Use.”)

SECTION 3.0 PROGRAM MISSION AND FUNCTIONS

Describe the overall mission and functions of the program. Explain why the program exists, what the major technologies or program elements are, and how they relate to Sector/EE/DOE missions and functions. The program mission and functions should describe the type of activities for which the Sector program management team is responsible (e.g., propulsion system technology development, vehicle/ fuel deployment, exploratory development, materials, etc.). If necessary, some brief background information may be included in this section.

SECTION 4.0 PROGRAMMATIC STRATEGIC OBJECTIVES

Describe in narrative form the strategic or multi-year objectives of the program. Number strategic objectives sequentially.

Under each strategic objective, briefly describe the on-going and planned program activities. These activities may span several years with a multitude of supporting programs and tasks.

SECTION 5.0 FISCAL YEAR TASKS

Identify the tasks or projects to be completed in the up-coming FY that will help accomplish the strategic objectives of the program. Each task or project should be aligned with a strategic objective.

SECTION 6.0 MILESTONE PLAN

Provide a Milestone Plan organized by strategic objective that identifies the major program milestones for the FY. Include the responsible Sector personnel and planned completion dates. The milestone plan will be used as a basis for measuring the progress of program execution. The milestone plan may be a table or Gantt chart.

SECTION 7.0 RESOURCES

Describe the assignment of personnel and fiscal resources required for executing the program. Identify sector manpower assignments in a responsibility matrix by task. Include the names of the Sector staff and an approximate percentage of time spent on the program. It may also be helpful to include an organizational chart which identifies the functional responsibilities of major participants (e.g., program/technical management support, national laboratory role, procurement offices, etc.). Provide FY budget resources in the form of a Spend Plan based on the average of the House and Senate marks, unless further information is known about the upcoming FY budget. Provide this FY Spend Plan as part of Appendix A of the AOP. Identify fiscal resources by strategic objective along with planned capital equipment dollars and previous year carryover dollars.

SECTION 8.0 PROGRAM INTERFACES AND SUPPORT

Provide a listing of contacts by organizations supporting the program and list work agreements and reporting requirements. Identify cooperative agreements with other organizations or agencies (e.g., MOUs, MOAs, etc.). Include phone numbers of key individuals to contact should the cognizant personnel not be available.

SECTION 9.0 HARDWARE AND DOCUMENT DELIVERABLES

List the major hardware and report deliverables planned for the FY (e.g., brassboard systems, subsystems, vehicles, conceptual design reports, cost studies, benefit analyses, etc.). List the large end products that represent tangible results of the R&D invested. It is not necessary to list all contract deliverables (e.g., routine test plans, management plans, etc.); however, significant hardware or deliverable items should also be included in the milestone plan.

SECTION 10.0 COMPLETE PROJECT LISTING

List the on-going or FY planned projects. Include the project listing as Appendix B. Include on the listing: the prime contractor and key subcontractors, points of contact, contract amounts, cost share percentage, start dates, durations, and an indication of small business status.

Enter the project information into the EERE Budget Hut.

Help Menu

Annual Operating Plan/Program Execution Plan:

Does Your Plan

- Identify work necessary to achieve or make significant progress towards Program goals and objective?
- Align with and map to field activity/lab/contractual plans for the fiscal year?
- Act for resources needed to execute the expected level of available funding?
- Are tasking/financial assistance instruments e.g., contracts, task orders in place or planned for?